

January 8, 1997
NARRATIVE FOR
CAMPBELL COUNTY, SOUTH DAKOTA
OIL & GAS DEVELOPMENT POTENTIAL MAP

INTRODUCTION

Campbell County lies east of the Missouri River in north-central South Dakota. The topography in this county ranges from the dissected "breaks" of the Missouri River in the western portion of the county to the flat plains in the eastern half of the county. Geologically, Campbell County is on the southeastern flank of the Williston Basin. Currently, there are no producing oil and gas wells in this county.

OCCURRENCE POTENTIAL

Most of Campbell County is rated high oil & gas occurrence potential. Regional geologic mapping (Mallory, 1972, p. 56) indicates the northwestern part of the county contains more than 5000 feet of sedimentary rocks. This is the same package of rocks which contain source beds and producing reservoirs in the adjacent Williston.

The rest of the county has been classified moderate occurrence potential with only an average of 2000-5000 feet of sedimentary rocks with source beds and reservoir rocks similar to the adjacent Williston Basin.

DISCUSSION OF RATINGS

No part of Campbell County has been designated as high development potential, because there have been no oil & gas wells drilled in the county in the last fifteen years and none of the tests drilled prior to that encountered any oil & gas shows.

All of Campbell County is rated as moderate development potential, however. Seven oil and gas tests were drilled in this county in 1969 to evaluate the Cretaceous Muddy Sandstone, in response to large Muddy discoveries at that time in the neighboring Powder River Basin of Montana. None of the tests encountered any shows. However, other areas of South Dakota have reported oil and gas shows in the Muddy (Bolyard, 1969). Regional geologic mapping (Mallory, 1972, p. 56) indicates this county is underlain with 4000-5000 feet of sedimentary rocks. This is the same package of rocks which contain source beds and reservoirs in other parts of the Williston Basin. Wildcatting and some very limited development in the Muddy Sandstone and deeper Paleozoic rocks may occur in this county in the next 15 years.

Since the entire county is underlain with thick sedimentary rocks, no part of Campbell County is classified as low development potential.

REFERENCES CITED

Bolyard, Dudley W., 1969, Muddy sand potential in South Dakota, in Eastern Montana Symposium: Montana Geological Society 20th Annual Field Conference, p. 85-94.

Mallory, W.W. (ed.), 1972, Geologic atlas of Rocky Mountain Region: Rocky Mountain Association of Geologists, p. 56.